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ABSTRACT

A study described the 1989-90 Chapter 1 Children's Art Carnival Creative Reading program, and assessed the effectiveness of its implementation. The program's primary purpose was to improve literacy through participation in creative arts activities coordinated with instruction in reading and writing. The program served 310 elementary school students at 6 sites in New York City (in Manhattan, Queens, and the Bronx). Data included observations of the program's activities and standardized tests. Results indicated that: (1) the program functioned well on a day-to-day basis; (2) students in grades 2 and 3 surpassed the program's criteria for success in the number of new reading skills mastered; (3) students in grades 2 through 5 made significant gains in reading skills; and (4) approximately two-thirds of the program participants increased writing proficiency, surpassing the program's criteria for success. Recommendations to improve the program include improving the relationship between program and school staff, facilitating teamwork between program staff, continuing to "rework" the program, focusing on lower grade levels, continuing to pursue parental participation, and supporting secondary sites. (Ten tables of data are included; a description of the collection and scoring of students' writing samples is attached.) (RS)

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OREA Report

E.C.I.A. CHAPTER 1
CHILDREN'S ART CARNIVAL
CREATIVE READING PROGRAM
1989-90

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EXECUTIVE SUMMARY

The Children's Art Carnival (C.A.C.) Creative Reading program is a Chapter 1 program that served 310 elementary school students at a total of six sites in Manhattan, Queens, and the Bronx in 1989-90. The program's primary purpose is to improve literacy through participation in creative arts activities which are coordinated with instruction in reading and writing. Program activities included plan and review sessions, art workshops, and small group reading/writing instruction.

Observations of C.A.C. activities revealed that the program generally functioned well on a day-to-day basis. Professional development was emphasized much more this year than in previous years. Initial attempts were made to involve parents through take-home activities.

Student achievement objectives were established by C.A.C. staff. Analyses of student data show that:

- Students in grades two and three surpassed the program's criteria for success in the number of new reading skills mastered during the program year.
- Students in grades two through five made significant gains in reading skills and met the program's criteria for success.
- Approximately two-thirds of the program participants increased writing proficiency, surpassing the program criteria for success.

In general, student reading performance, measured by various tests, has been consistently good over the last five years; more than one-half of the program participants improved their writing performance every year.

Recommendations for program improvement include the following:

- Forge a stronger relationship between C.A.C. administration and staff, and the staff at the schools in which the program operates.
- Make teamwork a focus of staff development efforts.
- Give greater attention to the enrichment of the program through ongoing development of pedagogic techniques that coordinate art and literacy.

- Consider focusing the program exclusively on grades two, three, and four, where it is currently directing the majority of its efforts.
- Expand efforts to increase parental participation.
- Continue to provide resources to secondary sites in order to ensure the high quality of program services.

ACKNOWLEDGEMENTS

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TABLE OF CONTENTS

		PAGE
I.	INTRODUCTION	1
	Program Purpose	1
	Chapter 1 Eligibility	1
	Program Objectives	2
	Program Evaluation	2
	Scope of the Report	3
II.	PROGRAM IMPLEMENTATION	4
	Funding and Staff	4
	Students Served	4
	Program Activities	4
	Site Visits	9
	Professional Development	13
	Parental Involvement	14
IV.	STUDENT OUTCOMES	16
	Methodology	16
	Reading Achievement	19
	Comparison with Performance in Past Years	26
V.	CONCLUSIONS AND RECOMMENDATIONS	32
	Summary	32
	Conclusions	33
	Recommendations	35
APPENDIX		
	A. Collection and Scoring of Students' Writing Samples	36

LIST OF TABLES

			Page
TABLE	1:	Number and Percentage of Students Participating in the C.A.C. Program by Grade, 1989-90	5
TABLE	2:	Number of Skills Mastered on the Prescriptive Reading Inventory by Second Grade Students in the C.A.C. Program, 1989-90	20
TABLE	3:	Number of Skills Mastered on the Prescriptive Reading Inventory by Third Grade Students in the C.A.C. Program, 1989-90	22
TABLE	4:	Mean N.C.E. Differences in Citywide Test Scores for Third Grade Students Participating in the C.A.C. Program, 1989-90	23
TABLE	5:	Mean N.C.E. Differences of C.A.C. Students on the Degrees of Reading Power Test by Grade, 1989-90	24
TABLE	6:	Number and Percentage of Students Increasing Writing Proficiency in the C.A.C. Program, 1989-90	25
TABLE	7:	Mean Raw Score Differences of C.A.C. Students on Holistically Scored Writing Tests by Grade, 1989-90	27
TABLE	8:	Comparison of Reading Performance as Indexed by the Number and Percentage of Students Mastering Targeted Skills on the P.R.I.: 1984-85 to 1987-88	28
TABLE	9:	Comparison of Overall N.C.E. Gains for Grades Four, Five, and Six on the Citywide Test Scores, 1984-85 to 1989-90	29
TABLE	10:	Comparison of Writing Performance: 1985-86 to 1989-90	31

I. INTRODUCTION

PROGRAM PURPOSE

The Children's Art Carnival (C.A.C.) Creative Reading program is a Chapter 1 program operating under the auspices of the Division of Instruction and Professional Development. The program's primary purpose is to improve literacy through participation in creative arts activities which are coordinated with instruction in reading and writing. The C.A.C. program is designed to facilitate children's abilities to express themselves and is intended to motivate students to read and write.

CHAPTER 1 ELIGIBILITY

Students living in a targeted attendance area and scoring below a designated cut-off point on State-mandated standardized reading tests were eligible for Chapter 1 services. Grade two students took the Metropolitan Achievement Test (MAT) and grades three through six took the Degrees of Reading Power (D.R.P.) Test. For both tests, performance at or below the 35th percentile on the Normal Curve Equivalent (N.C.E.)* was the criterion for eligibility. Chapter 1 guidelines specify that eligible students may also be selected for programs on the basis of classroom performance.

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*N.C.E. scores are similar to percentile ranks but, unlike percentile ranks, are based on an equal-interval scale ranging from one to 99, with a mean of 50 and a standard deviation of approximately 21. Because N.C.E. scores are equally spaced, arithmetic and statistical calculations such as averages are meaningful; in addition, comparisons of N.C.E. scores may be made across different achievement tests.

PROGRAM OBJECTIVES

The C.A.C. Creative Reading program's objective is to provide students with remediation in literacy skills coordinated with participation in creative arts activities. Student achievement objectives established by the C.A.C. staff were:

- By the end of program participation, 65 percent of the students in grades two and three will have gained mastery in at least three additional reading skills; 50 percent will have gained mastery in at least four new skills; and 25 percent will have gained mastery in five or more new skills, as determined by their pretest and posttest (fall to spring) scores on the Prescriptive Reading Inventory (P.R.I.).

- Students in grades three through six are expected to demonstrate statistically significant increases in spring to spring comparisons of citywide standardized reading test scores.

- By the end of program participation, 50 percent of the students are expected to demonstrate improved writing performance, as determined by holistic scoring of pretest and posttest writing samples.

PROGRAM EVALUATION

Evaluation of the program focused on program implementation as well as student performance on reading and writing tests. Evaluation procedures included on-site observations, interviews with program personnel, review of program documents, analyses of achievement test results, and holistic scoring of writing samples. Reading achievement was assessed by student performance on citywide reading tests for grades three through six; the P.R.I. was used for students in grade two, who do not consistently have citywide test scores that can be used as a pretest, and students in grade three, who are administered

different citywide reading tests on pre- and posttest administrations.

SCOPE OF THE REPORT

This report describes the implementation and impact of the 1989-90 Chapter 1 C.A.C. Creative Reading program. The first chapter introduces the program, eligibility requirements, and objectives. Program funding and staff, students served, program organization, and implementation are discussed in Chapter II. Chapter III includes a description of methods used for assessing student performance, and reports analyses and interpretation of student outcome data. Conclusions and recommendations are presented in Chapter IV. A summary of holistic scoring criteria for writing samples appears in the Appendix.

II. PROGRAM IMPLEMENTATION

FUNDING AND STAFF

The Children's Art Carnival Creative Reading program operated under the direction of the Division of Instruction and Professional Development and was funded with a grant of $300,000 from the Educational Consolidation and Improvement Act (E.C.I.A.) Chapter 1, Part A, Basic Grant program. Program staff included a program director, three reading specialists (four in the spring), six artist-teachers, a senior educational consultant, and an office associate.

STUDENTS SERVED

Classes from elementary schools in Community School Districts (C.S.D.s) 3 and 5 in Manhattan (P.S. 208M and P.S. 123M), C.S.D. 23 in Queens (P.S. 105Q and P.S. 123Q), and C.S.D. 8 in the Bronx (P.S. 140X and 146X) participated in the program. A total of 310 students in grades two through six participated in the C.A.C. Creative Reading program during the 1989-90 academic year. Table 1 presents a breakdown of students by grade.

C.A.C. classes were assigned by the principals and, according to the program director, often included problem classes or classes with new teachers. During the current year, the program also served a GATES class, which is a fourth grade class comprised entirely of students held over.

PROGRAM ACTIVITIES

The program provided instruction for the full academic year to 310 children; a number of other children attended C.A.C.

TABLE 1

Number and Percentage of Students
Participating in the Children's Art Carnival Program
by Grade, 1989-90

Grade	Number of Students	Percentage of Students
2	94	30.4
3	114	36.9
4	77	24.9
5[a]	12	3.9
6	11	3.6
Total	308[b]	99.7[c]

[a] There was one combined class with fifth and sixth graders, which has been included with the fifth grade students.

[b] No grade level was available for two students.

[c] Percentages do not add up to 100 due to rounding.

- Approximately 92 percent of program participants were in grades two, three, and four.

sessions for only a portion of the year. The program operated in Manhattan, Queens, and the Bronx. Two schools were served in each borough. One school was the primary site, where three classes were served; at the other school, called the secondary site, one class was served. All sessions were conducted in classrooms designated for C.A.C. use in each school. Students participated in the C.A.C. program throughout the school year, for a total of 32 weeks. Each week, participating students received approximately three hours of instruction in art, reading, and writing. Three types of sessions were offered each week--a plan and review session, an art workshop, and a storyroom session. Art workshops were led by C.A.C. art teachers, while C.A.C. reading teachers led plan and review as well as storyroom sessions. Often, C.A.C. art teachers and the classroom teacher provided assistance in the classroom. The three sessions were conducted on either the same day or on contiguous days. A brief description of each of these sessions follows.

Plan and Review Sessions

The C.A.C. plan and review sessions were conducted with whole classes (approximately 25 to 30 students). For approximately 40 minutes each week, the class discussed their art projects and engaged in related literacy activities. These included discussing options for theme-based projects, developing these projects in groups, and reviewing their progress. Children wrote work plans and procedures in log books.

However, during site visits evaluators found that writing in logs was often considered to be a perfunctory activity which both staff and students felt obliged to do, rather than a form of expression, as is artwork. Students were not always provided a truly motivating context for their writing, or sufficient time to think and write.

Moreover, during an observed session on 3-D construction, the term "3-D" was explained in a manner which was probably too sophisticated for the children; this would have been an obvious opportunity to use manipulatives as visual props to clarify an abstract concept. On another occasion, children were asked to simply write the names of objects that can be used to make things but are often thrown away. It seemed to evaluators that an opportunity to more fully develop a motivating context for thought, discussion, and writing was lost.

The Art Workshop

C.A.C. art workshops featured puppetry, printmaking, and ceramics. Whole classes participated in a 90-minute session each week. The art workshops were conducted by two professional artists, each of whom worked with half the class. Art activities were coordinated with reading and writing instruction through common themes, emphasis on sequential procedures, and reference to printed instructions. The development of symbolic processes and self-expression was intended to be emphasized in ways that would contribute to student motivation and self-esteem, and thus improve academic performance.

Storyroom/Small Group Reading Sessions

Each week, the C.A.C. reading teacher conducted small group reading sessions with students from each class. Between five and seven students of similar ability were pulled out from the classroom for a 40-minute session. Ability groupings were an attempt to target instruction, and the small groups allowed for individualized attention. These small group reading sessions were related to students' experience in the art workshop and its theme. Sessions featured reading aloud, creative writing, word games, and worksheets focusing on particular skills.

When evaluators observed activities in storyrooms, they found that the basic format was reading a story as an impetus for discussion, artwork, and writing. At one site, the reading teacher focused her attention on the particular difficulties of the students present. With one group of students, the reading teacher introduced writing by asking students what they wanted to say, and then helping them write it by sounding out words and asking questions which required the children to elaborate (who, what, where, why). In another session, the children were told to read in unison when it became apparent that some children were having difficulty performing before their classmates. This reading teacher also encouraged children who were not participating spontaneously.

At another site, the reading teacher encouraged students to read parts of a story, and punctuated the reading with questions ranging from word meanings to character motives. The reading

teacher also reviewed plot elements as the story proceded and introduced character parts with distinctive voices (often using these to emphasize how a character felt). During the story, the reading teacher drew the poorest reader near, encouraged him to read, helped him to sound out words, shared a book, and had him read key parts such as animal sounds and "punch" lines.

On the same day, but with another group of students, the reading teacher functioned as commentator and provocateur to improve the students' comprehension of the story being read aloud. For example, he asked what it meant when the elephant broke off a conversation saying he had an "engagement." This started debate (which he moderated) among the students about whether the elephant was going to get married post haste, or whether it might mean something else--for example, that the elephant really had someplace else to go--and why he said he was going to get married if, in fact, he wasn't. The session concluded with answering a number of who, what, when, where, how, and why questions in written logs. In sum, the session was an intensive effort aimed at completely comprehending a story. These storyroom sessions ran for over an hour and provided a sustained stretch of quality time. The tradeoff is that because of limited time with each class, longer sessions meant that children were seen only on alternate weeks.

SITE ISITS

OREA evaluators conducted 12 site observations during the academic year. A team of two OREA evaluators corroborated each

others' observations during each site visit. The following description of program implementation is based on these site observations, plus staff interviews, and program-supplied documentation. The primary sites in each borough are described in detail.

Queens

The Queens staff members have the most experience working in the C.A.C. Chapter 1 program. Furthermore, the artists are very capable teachers, and the reading teacher appears to work well with them. The facilities at the primary site are exemplary, and include colorful tables used as workstations, as well as a display of multicultural books related to the current workshop topic. There was a file of procedural charts for various art projects which were displayed on easels when needed. Displays of children's work were colorful, related to the current theme, and accompanied by written work. The highlight of the display was a set of ceramic tiles related to the theme "Have You Seen Birds?" The product was impressive, as was the collaborative effort it required.

Each child kept a log and a folder of written work. Both appeared to be used weekly, and were used while the evaluators were present. In general, lessons were purposeful, with a beginning, middle, and end, and integrated reading, writing, and art. The major problem reported by program staff at this site was that neither they nor the program director were involved in the selection of teachers with whom they worked; on several

occasions, they were paired with teachers with whom they had had poor experiences in the past.

The Bronx

In its second year of operation, the Bronx site was much improved. The storyroom at the primary site was much better equipped than during the previous year. A reading center had been created in a corner with a rug surrounded by shelves with books. The walls were covered with a broad array of materials, including world and U.S. maps with the caption "Where do you live?" as well as teacher-made charts about poetry (rhyme, meter, and haiku) and "The five Ws" of storytelling. Children's artwork was used in the storyroom, but as decorative accents rather than focal displays, and was often unaccompanied by any written explanation or caption.

Ample space was allotted to the art workshops; plan and review sessions also occurred in this large subdivided room. Observers noted that the reading teacher and the artists appeared to function independently, although they shared a focal theme. This resulted in some plan and review sessions which tended to meander. OREA observers felt that program efforts at this site needed greater integration of the arts and literacy components.

Manhattan

The staffing and physical facilities at the primary site have both undergone changes since the beginning of the academic year. A veteran C.A.C. reading teacher left the program and was replaced by a relatively inexperienced person, who was later

paired with another teacher. This site received the greatest amount of attention from the senior educational consultant. The other major change during the current year was the assignment of only one room for C.A.C. activities, compared to two last year. At this site, as in the Bronx, some liberties were taken with the scheduling of storyroom sessions, but the sessions seemed to be functioning well nonetheless. Given local conditions, it seemed to OREA evaluators that it might not be necessary to insist on uniformity at all the sites <u>if</u> the adjusted schedules prove equally effective.

OREA evaluators observing this site were concerned about apparent problems with the planning of lessons and classroom management; these problems seemed very much related. On two observed occasions, transitions between activities were only loosely related by theme and were abrupt, creating (by default) time when children were expected to just sit and wait. This precipitated behavioral disruptions among students. So, although program personnel were available to circulate among the students while the lessons were conducted by a single person at the front of the room, all their energies were directed toward alleviating the latest outburst or problem.

Another problematic situation was that staff members concentrated on checking the children's work when it was completed, rather than providing hints, structure, and encouragement as needed during the task. Thus they were unable to pick up on the student's difficulties with a task <u>before</u> the

child would give up and create a behavioral disturbance.

Secondary Sites

In general, the secondary sites in each borough were less well equipped and decorated than the primary sites. Since the program was only in operation for one day a week at the secondary sites, it did not have exclusive use of a room in any of the boroughs. Consequently, most materials were transported from a storage room to the C.A.C. classroom and back on the day they were used. Moreover, the selection of books was limited at these schools as compared to the primary sites.

PROFESSIONAL DEVELOPMENT

The program coordinator had an orientation meeting with each participating classroom teacher. This was followed up by informal discussions throughout the year between C.A.C. reading teachers and classroom teachers.

This was the first year the program hired a part-time senior educational consultant. Although initially scheduled to spend a total of seven days working with the staff at each site, the greater need for such services at the Manhattan site was recognized early in the academic year. Consequently, the consultant worked closely with the reading teachers at this site, for a total of 12 visits. The other sites, which were functioning smoothly, were visited three or four times each during the school year. The senior educational consultant provided feedback and suggestions for improvement.

Informal weekly meetings between the reading teacher and

artists at each site concentrated on reading and writing instruction. A memo from the program coordinator indicated that six joint meetings of the Manhattan and Queens staff were held during the academic year. Staff presentations and discussions focused on techniques for improving instruction.

PARENTAL INVOLVEMENT

Current Efforts

At the beginning of the school year, parents of participating students received a letter describing the program and encouraging them to visit their child's class and accompany the class on field trips (e.g., to Chinatown). The program also cooperated with school open houses in the fall and spring. At each open house, an exhibition of the children's artwork was supplemented by the staff's discussion of how the program integrated art and literacy skills. In addition, the C.A.C. reading teacher interacted with the parents' organization at each school.

Pilot Take-home Activities Involving Parents

The reading teacher at the primary site in Queens had prepared a packet of stories and word games for children to take home for the summer and work on with their parents. When they saw this prototype, staff members from several sites were enthusiastic about developing such materials for use during the school year as well. The development and sharing of this and other packets that would include a range of literacy skills was encouraged by the program director. However, OREA evaluators

felt that the program lacked some sort of liaison activity with parents (e.g., meetings, a help-line) to assist them in working with their children.

III. STUDENT OUTCOMES

METHODOLOGY

The impact of the 1989-90 Children's Art Carnival program on reading and writing achievement was determined by comparisons of pretest and posttest reading and writing scores. Correlated *t*-tests were used to compare:

- spring 1989 to spring 1990 citywide standardized test scores for students in grades three through six. The tests compared for third grade were the MAT (spring 1989) and the D.R.P. (spring 1990). D.R.P. test scores were compared for fourth, fifth, and sixth grades.
- fall to spring holistic writing scores for all C.A.C. students.

In addition, frequency distributions were used to show the number of reading skills mastered by second and third grade students on the P.R.I.

Second Grade Reading Scores

The effect of participation in the program on the reading performance of second graders was indexed by a within-individual tally of the number of new criterion-referenced test skills (on the P.R.I.) mastered by the end of the program. Criteria for performance are described in the Introduction to this report.

Third Grade Reading Scores

In contrast to students in grades four, five, and six, who took the D.R.P. in spring 1989 and spring 1990, third grade students took the MAT in spring 1989 and the D.R.P. in spring 1990. Therefore, their spring 1990 D.R.P. scores were converted,

using the equipercentile method*, to equivalent MAT scores in order to make the necessary spring to spring comparison. A t-test was used to determine if there were statistically significant pre- to posttest differences. In addition, the P.R.I. was used as a backup assessment for reading test scores.

Grades Four Through Six Reading Scores

The criterion for improved reading performance was a statistically significant difference between pre- and posttest scores on the D.R.P. These scores were compared using correlated t-tests. Statistical significance, however, does not address the issue of whether the achievement changes are important to the students' educational development. Thus, an effect size (E.S.)** has also been reported for each comparison to indicate the educational meaningfulness of each mean gain or loss, independent of the sample size.

Holistic Writing Scores

Student writing samples were obtained at the beginning and end of program participation. On both occasions, students were

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*This conversion utilized tables approved by the State Education Department which were generated by equating frequency distributions for MAT and D.R.P. scores.

**The effect size, developed by Jacob Cohen, is the ratio of the mean gain to the standard deviation of the gain. This ratio provides an index of improvement in standard deviation units irrespective of the size of the sample. According to Cohen, 0.2 is a small E.S., 0.5 is a moderate E.S., and 0.8 is considered to be a large E.S. Only effect sizes of 0.8 and above are considered to be educationally meaningful, reflecting the importance of the gains to the students' educational development.

asked to focus on a picture selected from an array posted on the walls and write a story about it.

These writing samples were holistically scored using scales developed by OREA; separate scales were developed for students in grades two and three, and for students in grades four through six (see Appendix A). The scoring procedure assessed how well the student was able to communicate, with special attention to the writing sample's coherence, sentence structure and sequence, and the author's awareness of an audience. Each writing sample was independently scored by two people, whose scores (if they matched or differed by only one point) were combined to yield a rating for the paper. Following the State Department of Education's guidelines for holistic scoring of writing samples, a one point discrepancy between coders was acceptable. Discrepancies of greater than one point required a third coder.

Inter-rater reliability was computed by comparison of independent ratings of a subset of the writing samples. Separate reliabilities were computed for the second and third grade scale and for the fourth through sixth grade scale. Reliability was computed between the ratings of four scorers on thirty-five second and third grade writing samples. Ninety-seven percent (N=34) of the ratings differed by one point or less. Fifty-one percent (N=18) of the papers received the same score from the four coders. For the fourth to sixth grade scale, the ratings of three scorers on 36 papers were compared. Ninety-seven percent (N=35) of the ratings differed by one point or less. Perfect

(N=35) of the ratings differed by one point or less. Perfect agreement between the three scorers was attained on 39 percent (N=14) of the papers.

Pretest and posttest scores were compared using correlated *t*-tests. The effect size was also computed for each grade. In order to determine whether program objectives for writing performance were attained, another analysis concentrated on students with posttest scores that were higher than their pretest scores. The number and percentage of students increasing in writing proficiency was computed and compared to the program criterion of 50 percent improvement.

READING ACHIEVEMENT

Second Grade Students

Only students with complete test information were included in the analyses. Table 2 lists the number and percentage of second grade students mastering the targeted number of skills. Overall, second grade students for whom fall 1989 and spring 1990 scores were available exceeded the program's criteria for success in reading skills. Eighty-nine percent of the students mastered five or more skills.

Third Grade Students

Only students with complete test information were included in the analyses. Table 3 lists the number and percentage of third grade students mastering the targeted number of skills. Overall, third grade students for whom fall 1989 and spring 1990 scores were available exceeded the program's criteria for success

TABLE 2

Number of Skills Mastered on the Prescriptive Reading Inventory by Second Grade Students in the Children's Art Carnival Program, 1989-90

Number of Skills Mastered	Number of Students	Percentage of Students
1-2	1	1.5
3	2	3.0
4	4	6.0
5	8	12.0
6	13	19.4
7	5	7.5
8	8	12.0
9	26	38.8
Total	67[a]	100.2[b]

[a]Complete data were only available for 67 out of 94 students.

[b]Percentages do not add up to 100 due to rounding.

- Almost 90 percent of second grade students mastered five or more skills.

in reading skills. Eighty-nine percent of the students mastered five or more skills.

The results for grade three students on the comparison of spring 1989 MAT scores and spring 1990 equivalent MAT scores are presented in Table 4. Overall, third grade students met the program's criterion for success in reading; there was a significant improvement in test scores.

Fourth, Fifth, and Sixth Grade Students

Students in grades four, five, and six took the D.R.P. in both spring 1989 and spring 1990. These results appear in Table 5. Overall, fourth and fifth graders each achieved statistically significant improvement in reading test scores, thereby meeting the program's criterion for success.

Sixth grade students were members of a mixed fifth and sixth grade class; only eight sixth grade students had pre- and posttest data. This precluded the computation of statistical significance.

Improvement in Writing Performance Across All Grade Levels

Program objectives for writing performance were stated in terms of the percentage of students whose proficiency in writing increased. These results are presented in Table 6. Overall, 73 percent of the students improved in writing, thereby meeting the program's criterion for success. More than 60 percent of the students in each grade improved in writing.

Pre- to posttest comparisons of holistically scored writing samples utilized correlated *t*-tests. These results are presented

TABLE 3

Number of Skills Mastered on the Prescriptive Reading Inventory by Third Grade Students in the Children's Art Carnival Program, 1989-90

Number of Skills Mastered	Number of Students	Percentage of Students
2	4	4.4
3	3	3.3
4	3	3.3
5	8	8.8
6	7	7.7
7	7	7.7
8	9	9.9
9	50	54.9
9 Total[a]	100.0	

[a]Complete data were only available for 91 out of 114 students.

- Almost ninety percent of third grade students mastered five or more skills.

TABLE 4

Mean N.C.E. Differences in Citywide Test Scores for Third Grade Students Participating in the C.A.C. Program, 1989-90

Grade	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	Effect Size
3	83[a]	29.0	14.0	34.3	15.1	5.3	13.7[b]	0.4

[a] Complete data were available for 83 out of 114 students.

[b] Statistically significant at the $p \leq .05$ level.

- Third grade students achieved a statistically significant mean gain of 5.3 N.C.E.s. The effect size was small.

TABLE 5

Mean N.C.E. Differences of Children's Art Carnival Students on the Degrees of Reading Power Test by Grade, 1989-90

Grade	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	Effect Size
4	68	27.9	14.0	34.6	13.7	6.7[a]	12.8	0.5
5	10	26.2	9.9	32.4	12.0	6.2[a]	11.6	0.5
6	8[b]	28.9	7.4	33.4	7.7	4.5	8.8	n.a.
Total	86[c]	27.8	13.1	34.3	13.0	6.4[a]	12.3	0.5

[a] These mean differences were statistically significant at the $p \leq .05$ level.

[b] The small number of sixth graders precluded a computation of statistical significance.

[c] Complete data were available for 86 out of 100 students.

- The mean gains for grades four and five ranged from 6.2 N.C.E.s to 6.7 N.C.E.s. These gains were statistically significant and represented moderate effect sizes.

TABLE 6

Number and Percentage of Students Increasing Writing Proficiency in the Children's Art Carnival Program 1989-90

Grade	Number of Students Tested	Students with Higher Postest Scores	
		N	%
2	64	47	73.4
3	83	57	68.7
4	58	47	81.0
5	11	7	63.6
6	9	6	66.7
TOTAL	225[a]	164	72.8

[a] Complete data were available for 225 out of 310 students.

- Approximately two-thirds of the students participating in the program attained higher posttest scores, indicating increased writing proficiency.

in Table 7. Students in grades two through five achieved statistically significant mean gains. The performance improvements of these students represented large effect sizes, indicating an educationally meaningful increase.

COMPARISON WITH PERFORMANCE IN PAST YEARS

The reading and writing performance of students participating in C.A.C. during the current year was compared to student performance over five years. In previous years, mastery of the targeted number of skills on the P.R.I. served as the index of reading performance. Attainment of the minimal number of targeted skills had been high from 1984-85 to 1987-88 (see Table 8). In 1988-89, only second graders' reading was assessed by the P.R.I. In 1989-90, the P.R.I. was administered to both second and third grade students.

Because different citywide reading tests are used in the spring of the second grade year and the spring of the third grade year, multi-year comparisons were not made for third grade performance on standardized reading tests. The performance of students in grades four, five, and six on the citywide reading test was compared for the past three years (see Table 9). In 1987-88 and 1988-89, pre- to posttest comparisons yielded large and educationally meaningful effect sizes; student performance during 1989-90 yielded a moderate effect size.

The index of writing performance used for multi-year comparison was an improvement in the posttest score compared to the pretest. In the initial year (1985-86) of writing

TABLE 7

Mean Raw Score Differences of Children's Art Carnival Students on Holistically Scored Writing Tests, by Grade, 1989-90

Grade	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	Effect Size
2	64	7.0	1.5	8.6	1.3	1.5[b]	1.4	1.1
3	83	9.1	1.3	10.4	1.3	1.3[b]	1.2	1.1
4[a]	58	3.4	1.1	5.1	1.5	1.7[b]	1.2	1.4
5	11	3.7	1.2	4.5	1.4	0.7[b]	0.9	n.a.[c]
6	29	4.4	2.1	5.2	1.6	0.8	1.6	n.a.[c]
Total	225[d]	6.6	2.7	8.0	2.7	1.4[b]	1.3	1.1

[a] Note that different rating scales were used for grades two and three, and grades four through six. These scales could rate from one to seven for grades two and three, and from zero to four for grades four through six. The ratings given by two raters were combined to yield a total score for each paper.

[b] These differences were statistically significant at $p \leq .05$.

[c] Not applicable: an effect size should not be calculated for small samples.

[d] Complete data were available for 225 out of 310 students.

- Students in grades two through five achieved statistically significant pre- to posttest differences.

TABLE 8

Comparison of Reading Performance of Students
Mastering Targeted Skills on the Prescriptive Reading Inventory
1984-85 to 1989-90

Year	Number Tested	3 or More Skills N	3 or More Skills %	5 or more skills N	5 or more skills %
READING: GRADES TWO THROUGH SIX					
84-85	284	259	91%	128	45%
85-86	278	222	80	127	46
86-87	245	223	91	111	45
87-88	279	235	84	145	52
SECOND GRADE ONLY					
88-89[a]	63	62	98	57	90
SECOND AND THIRD GRADES					
89-90[b]	158	153	97	141	89

[a] During the 1988-89 academic year, only second grade students were administered the P.R.I. as both a pre- and posttest.

[b] During the 1989-90 academic year, second grade students were administered the P.R.I. as the sole instrument for evaluating performance. Third graders were also administered the P.R.I. as both a pre- and posttest.

- During the past four years, more than 80 percent of the students in each class gained three or more reading skills.
- Each year, approximately half the program participants gained five or more reading skills.

TABLE 9

Comparison of Overall N.C.E. Gains for Grades Four, Five, and Six on the Citywide Test Scores, 1987-88 Through 1989-90

Year	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference[a] Mean	Difference[a] S.D.	Effect Size
87-88	69	35.1	8.0	43.2	10.0	8.1	10.0	0.8
88-89	110	25.5	18.2	36.8	16.2	11.3	14.4	0.8
89-90	86	27.8	13.1	34.3	13.0	6.4	12.3	0.5

[a] These mean differences were statistically significant at $p<.05$.

- Overall mean gains of participants in grades four through six from 1987 to 1990 were statistically significant. These mean gains represented large effect sizes for 1987-88 and 1988-89, and a moderate effect size for 1989-90.

assessment, slightly less than half of the students improved. In the three subsequent years more than half improved (see Table 10). It should be noted that the simple index of "number of students improving" is relatively impervious to the changes in rating scales (in 1987-88 and again in 1989-90). In 1988-89 and 1989-90, students in grades two, three, and four demonstrated statistically significant improvements in writing performance.

TABLE 10

Comparison of Children's Art Carnival Students' Writing Performance[a] 1985-86 to 1989-90[b]

Year	Number Tested	Increased Proficiency N	Increased Proficiency %
85-86	222	106	48%
86-87	185	123	66
87-88	235	134	57
88-89	249	130	52
89-90	225	164	73

[a] Writing performance was not assessed before fall 1985.

[b] In 1987-88, a five-point rating scale replaced the four-point scale used in previous years.

- The percentage of participating students showing an improvement in their wirting performance was higher in 1989-90 than in preceding years.

IV. CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

During 1989-90, the C.A.C. Creative Reading program gave increased attention to professional development. Most noteworthy was the hiring of a part-time senior educational consultant to work with the staff at each site. On several site visits, OREA evaluators thought that the plan and review sessions would have benefitted from better planning and teamwork among the C.A.C. staff, however.

OREA evaluators observed that some small group reading sessions ran for substantially longer than their scheduled time. While providing high quality instructional time, this departure from the schedule meant children were seen only on alternate weeks.

Steps to improve parental involvement were also initiated during the past year. The most notable innovation was development and dissemination of a packet of take-home activities for parents to use with children during the summer. Plans to expand such an effort to all sites and implement it as an ongoing activity during the school year were discussed.

Student reading performance improved during the year, as indicated by several measures. Specifically, almost ninety percent of second and third graders mastered five or more skills on the P.R.I. and third, fourth, and fifth graders attained statistically significant gains on citywide reading tests. Student writing performance also improved, with approximately

two-thirds of the students demonstrating increased writing proficiency. Comparison of pre- and posttest writing samples indicated statistically significant and educationally meaningful improvements for students in grades two through five.

CONCLUSIONS

Improve the Relationship Between Program and School Staff

The program should take advantage of its school-based operation by encouraging a closer relationship between school and program staff. This might help alleviate problems such as variability in classroom teacher willingness to fully participate in program activities. If, as reported by program staff, the classes assigned to C.A.C. by the principals often included problem classes or classes with new teachers, program administration and staff need to develop rapport with principals to ensure a productive, collegial relationship. This might be achieved by establishing mutual expectations and guidelines regarding assignment of teachers who work with C.A.C. staff.

Facilitate Teamwork Between Program Staff

Internal dynamics in the program also required continued work. Too often neither the time for meeting nor guidance about how to coordinate the efforts and interests of teachers and artists were available. Although the Manhattan site will need sustained work to function on par with the other sites, staff development activities at the Bronx and Queen sites should also continue efforts to facilitate teamwork.

Continue to "Rework" the Program

In addition to interpersonal cooperation and opportunities for advance preparation, OREA evaluators noted that the nature of the program requires constant reworking to achieve the goal of coordinating art and literacy in a manner that will be meaningful and beneficial to students. For example, efforts could be made to expand the use of manipulables as visual props to clarify abstract concepts whenever possible. This would be a way of truly realizing the potential of art as a tool for teaching. Currently, writing in logs is often a perfunctory activity. Teachers could, however, present writing as a form of expression, as is artwork. Other efforts should focus on fully developing motivating contexts for thought, discussion, and writing.

Focus on Lower Grade Levels

Currently only about ten percent of the students served by the program are in grades five and six. The program should consider focusing on grades two, three, and four in order to focus full attention on the further development of pedagogic strategies for use in lower grades.

Continue to Pursue Parental Participation

Several strategies should be pursued to increase the frequency and effectiveness of parental participation. The program should encourage the continuing development of packets of take-home activities, sharing of these between sites, and coordination to insure that other such packets are developed to cover a range of literacy skills. These packets should be

supplemented with liaison with parents, such as meetings and a help-line, to assist them with working with their children.

Support Secondary Sites

Lastly, it was found during the site visits that secondary sites were generally less well equipped and decorated than the primary sites, and the selection of storybooks was limited. Greater efforts should be made to make C.A.C. as rich a resource for children at these sites as it is for students at the better established sites.

RECOMMENDATIONS

In summary, it is recommended that the C.A.C. program take the following steps to improve the program in subsequent years:

- Forge a stronger relationship between C.A.C. administration and staff, and the staff at the schools in which it operates.
- Make teamwork a focus of staff development efforts.
- Give greater attention to the enrichment of the program through ongoing development of pedagogic techniques that coordinate art and literacy.
- Consider focusing the program exclusively on grades two, three, and four, where it is currently directing the majority of its efforts.
- Expand efforts to increase parental participation.
- Continue to provide resources to secondary sites in order to ensure the high quality of program services.

APPENDIX A

COLLECTION AND SCORING OF STUDENT'S WRITING SAMPLES

Data Collection

At each site, four pictures were selected by the reading teacher and displayed. Students were instructed to select one picture and write a story about it. No time limit was placed on the children.

Holistic Scoring of Writing Samples

Separate scoring criteria were developed for second and third graders and for students in grades four through six. This was warranted by apparent differences in the range of performance by students in lower and upper grades. The scales derived for scoring appear on the following pages.

Writing Scale for Grades Two and Three

SCORE	
1	No writing, only drawing
2	Letters/child's name/copied material
3	Whole word units Understanding of phonemic recombination
4	Fragmentary writing: *phrases *isolated sentence *unrelated sentences
5	Minimally competent related sentences; may or may not show scribal interference
6	Extended writing on a topic: *elaborates or provides detail *may contain digressions or confusions in genre *may show evidence of disorganization *generally inadequate mastery of scribal convention
7	Clearly developed narrative or descriptive discourse *scribal mastery is adequate or better

Notes regarding the scale for grades two and three:

The child's ability to copy written material, write letters, or write their name is evidence that the child is beginning to grasp the concept of written language.

A child can master a number of whole, or sight, words without grasping the concept of phonemic combination. Phonemic combination refers to the understanding that a sound corresponds to a letter or cluster of letters that, in turn, correspond to differences in meaning.

Writing Scale for Grades Four Through Six

Score	
0	No writing
1	Minimal indications of literacy Fragmentary writing
2	Minimal competence *related sentences *relatively free of scribal interference *grammatical interference
3	Intermediate competence Grammatical weaknesses do not interfere with reading/meaning
4	Clearly developed narrative or descriptive discourse *scribal mastery is adequate or better *exhibits some stylistic or genric sophistication